



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

JD

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,669	04/21/2004	Michael D. Schneider	HO-P02767US1	6169
26271	7590	11/06/2006	EXAMINER	
FULBRIGHT & JAWORSKI, LLP			QIAN, CELINE X	
1301 MCKINNEY			ART UNIT	PAPER NUMBER
SUITE 5100				
HOUSTON, TX 77010-3095			1636	

DATE MAILED: 11/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/828,669	SCHNEIDER ET AL.	
	Examiner Celine X. Qian Ph.D.	Art Unit 1636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-49 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) \_\_\_\_ is/are rejected.
- 7) Claim(s) \_\_\_\_ is/are objected to.
- 8) Claim(s) 1-49 are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. ____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date ____.	6) <input type="checkbox"/> Other: ____.

## **DETAILED ACTION**

Claims 1-49 are pending in the application.

### ***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

Group I, claims 1-29, drawn to a method of upregulating expression of a cardiac specific polynucleotide in a cell, comprising delivering a composition that activates Wnt/b-catenin signaling, such delivering is accomplished by delivering polynucleotide, classified in class 435, and subclass 6.

Group II, claims 1-29, drawn to a method of upregulating expression of a cardiac specific polynucleotide in a cell, comprising delivering a composition that activates Wnt/b-catenin signaling, such delivering is accomplished by delivering polypeptide, classified in class 530, and subclass 300.

Group III, claims 30-37, drawn to a method of enhancing proliferation of a cardiomyocyte cell from a non-cardiomyocyte cell by delivering a composition to said non-cardiomyocyte cell that activates Wnt/b-catenin signaling, classified in class 435, subclass 325.

Group IV, claims 38-41, drawn to a method of treating cardiovascular disease in a subject comprising the step of delivering a composition that activates Wnt/b-catenin signaling to the cell, classified in class 514, subclass 44.

Group V, claims 42-44, drawn to a method of generating myocytes by in vitro differentiating cells that have been mixed with a composition that activates Wnt/b-catinin signaling, classified in class 435, subclass 455.

Group VI, claims 45-46, drawn to a method of treating a subject suffering from an infarcted myocardium comprising the step of administering to the subject an effective amount of the myocytes that are differentiated in vitro to repair the infarcted myocardium, classified in class 424, subclass 93.1.

Group VII, claims 47-49, drawn to a method of repairing an injured myocardium comprising the step of administering an effective amount of in vitro differentiated myocytes to repair the injured myocardium, classified in class 424, subclass 93.1.

The inventions are distinct, each from the other for following reasons.

The inventions of Groups I-VII are patentably distinct from each other because they are drawn to methods that require different starting material and modes of operation. Each method

Art Unit: 1636

comprises distinct steps for accomplishing distinct purposes. Therefore, the inventions of Groups I-VII are patentably distinct from each other.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper. A search of the subject matter of one invention would not be co-extensive with a search of the other invention, and therefore the search would be burdensome. Each invention is capable of supporting a separate patent.

Applicants are further required to elect one specific composition that activates Wnt/b-catenin signaling and one specific cardiac specific polynucleotide or one specific combination of cardiac specific polynucleotide if Groups I or II are elected. If Group III is elected, Applicants are further required to elect a cell comprising one specific gene or one specific combination of gene (see claim 34).

Groups I, II and III above reads on patentably distinct genes or different compositions. Each gene, or combination of genes, is patentably distinct because they are unrelated sequences, whereas each composition has different chemical structural which is distinct from each other. This is NOT an election of species. Each molecule of a gene encoding is chemically and structurally distinct from another gene. These sequences are thus deemed to normally constitute independent and distinct inventions within the meaning of 35 U.S.C. 121. Absent evidence to the contrary, each such gene are presumed to represent an independent and distinct invention, subject to restriction requirement Pursuant to 35 USC 121 and 37 CFR 1.141. By statute, "[i]f two or more independent and distinct inventions are claimed in one application, the

Commissioner may require the application to be restricted to one of the inventions." 35 U.S.C. 121. Pursuant to this statute, the rules provide that "[i]f two or more independent and distinct inventions are claimed in a single application, the examiner in his action shall require the applicant.., to elect that invention to which his claim shall be restricted." 37 CFR 1.142 (a). See also 37 CFR 1.141(a). It is noted that searching more than one of the claimed patentably distinct sequences represents a serious burden for the office.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the

application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Celine X. Qian Ph.D. whose telephone number is 571-272-0777. The examiner can normally be reached on 9:30-6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Remy Yucel Ph.D. can be reached on 571-272-0781. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Celine X Qian Ph.D.  
Examiner  
Art Unit 1636

CELINE QIAN, PH.D.  
PRIMARY EXAMINER

